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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,360	07/12/2001	Giuseppe Curello	Z&PINFP-08190	1413
24131	7590	03/09/2005	EXAMINER	
LERNER AND GREENBERG, PA P O BOX 2480 HOLLYWOOD, FL 33022-2480			ANYA, IGWE U	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 03/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/904,360

Applicant(s)

CURELLO ET AL.

Examiner

Igwe U. Anya

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 8-12 is/are rejected.
- 7) ☒ Claim(s) 5-7 and 13-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 3, and 8 – 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kameyama et al. (US Patent 5296388).

3. Kameyama et al. (fig. 2) teach:

providing a semiconductor substrate (106P);

producing a doping (112) at a surface of the silicon substrate (106P) by arsenic ion implantation, wherein the doping destroys a natural oxide on the semiconductor substrate and transforms the doped region (112) into an amorphous structure (col. 8 lines 5 – 13);

after the doping, depositing a polysilicon layer (114) of about 250 nm at the surface (fig. 3); and

then annealing to produce an epitaxial layer (and a buried doping (col. 8 lines 14 – 35). Kameyama et al. further teach the doping can be achieved by ion implantation with ions selected from Si, Ge, and Ar (col. 17 lines 26 – 37), and the semiconductor substrate comprising of silicon material (col. 8 lines 64 – 68).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kameyama et al. (US Patent 5296388).

6. The Kameyama et al. reference teaches the feature previously outlined, but lacks the amorphous layer to have a thickness of 500 – 1000 nm, and depositing the polysilicon layer by LPCVD.

7. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to deposit the amorphous layer to a thickness of 500 – 1000 nm, and depositing the polysilicon layer by LPCVD, since it has been held that provision for adjustability where needed, involves only routine skill in the art. In re Stevens, 101 USPQ 284 (CCPA 1954).

8. Claims 5 – 7, and 13 – 20 are objected to as being dependent upon a rejected claim, but would be allowable if rewritten in independent form.

9. Claim 21 is allowable, because prior does not teach inter alia a polycrystalline or amorphous layer on a doped surface subjected to ion bombardment or RTA, and followed by a heat treatment to produce a MOS transistor.

***Remarks***

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10. Applicant's arguments filed December 17, 2004 have been fully considered but they are not persuasive. Kameyama et al. teach the method to be applicable to MOS transistors (col. 19 lines 42 – 57). Limitations of claim 21 include an RTA or ion bombardment followed by a heat treatment step. These limitations are not found in claim 1.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

***Contact Information***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Igwe U. Anya whose telephone number is (571) 272-1887. The examiner can normally be reached on M - F 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William B. Baumeister can be reached on (571) 272-1722. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Igwe U. Anya  
Examiner  
Art Unit 2829

IA

March 6, 2005



W. DAVID COLEMAN  
PRIMARY EXAMINER